



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D206-667-103
Job Sheet 196106



Part No: D206-667-103

Job Qty: 1 pcs

Part Name: Fwd Crosstube - High 206L / L1 / L3 / L4



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 6/6/19

Job Tracking No:

Created By: Marie Lajeunesse

Due Date: 7/5/19

Description: SIOP

Type: Stock

Note: DWG DSI9565 REV A , DSI9628 REV A , D206-667-143 REV C (DEO) IPP Rev:F 05.09.01 Add holes for compatibility with Bell Skidtubes KJ/JLM IPP Rev:G 08-06-03 update per DSI9415 (ECN1198) DD IPP Rev: H 08.11.17 QC5 was QC6 at step 12 KJ verified: EC IPP Rev:I 08-12-15 add magnobond DD verified:EC IPP Rev J 09.01.06 ECN 08-562 EC verified:DD IPP Rev:K 09-01-19 as per DSI9439 DD verified:EC IPP REV:L 11.08.05 PER ECN 11-615 DD VERF:EC IPP REV:M 12.08.20 DSI9628 revA (ECN12-631) DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Packaging 1 - Pick Kit	1 pcs		7/5/19	0.00	0.00	Packaging 1 - 1		
							Packaging 1 - 2		
							Packaging 1 - 3		
							Packaging 1 - 4		
							Packaging 1 - 5		
							Packaging 1 - 6		
							Packaging 1 - 7		
							Packaging 1 - 8		
							Packaging 1 - 9		
							Packaging 1 - 10		
							Packaging 1 - 11		
							Packaging 1 - 12		
							Packaging 1 - 13		
							Packaging 1 - 14		
							Packaging 1 - 15		
							Packaging 1 - 16		
							Packaging 1 - 17		
							Packaging 1 - 18		
							Packaging 1 - 19		
							Packaging 1 - 20		
							Packaging 1 - 21		
							Packaging 1 - 22		
							Packaging 1 - 23		
							Packaging 1 - 24		
							Packaging 1 - 25		
							Packaging 1 - 26		
							Packaging 1 - 27		
							Packaging 1 - 28		

N/A
19.06.17

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					Packaging 1 - 29	
					Packaging 1 - 30	
					Packaging 1 - 31	
					Packaging 1 - 32	
					Packaging 1 - 33	
					Packaging 1 - 34	
					Packaging 1 - 35	
					Packaging 1 - 36	
120 Crosstubes - Bend - 2 - B4B	1 pcs	7/5/19	0.50	1.00	Crosstubes - Bend - B4B	BB Sat, 18/2019
130 QC 15	1 pcs	7/5/19	0.00	0.00	QC 15 - 12	
					QC 15 - 3	
					QC 15 - 47	
					QC 15 - 49	
					QC 15 - 58	
					QC 15 - 9	
					QC 15 - 68	
140 Crosstubes - 2 - B4B	1 pcs	7/5/19	0.00	4.00	Crosstubes - 1 - B4B	DAS SEP 18 2019 68
					Crosstubes - 2 - B4B	9-89
					Crosstubes - 3 - B4B	BB 9/19/2019
					Crosstubes - 4 - B4B	
150 Crosstubes - 3 - B4B	1 pcs	7/5/19	0.00	0.31	Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	BB 9/19/2019
					Crosstubes - 4 - B4B	
160 QC 7	1 pcs	7/5/19	0.00	0.00	QC 7 - 10	
					QC 7 - 13	
					QC 7 - 14	
					QC 7 - 15	
					QC 7 - 17	
					QC 7 - 18	
					QC 7 - 19	
					QC 7 - 2	
					QC 7 - 28	
					QC 7 - 3	
					QC 7 - 30	
					QC 7 - 34	
					QC 7 - 36	
					QC 7 - 37	
					QC 7 - 41	
					QC 7 - 47	
					QC 7 - 48	
					QC 7 - 51	
					QC 7 - 58	
					QC 7 - 59	
					QC 7 - 60	
					QC 7 - 9	
					QC 7 - 68	
					QC 7 - 50	
					QC 7 - 67	GP 19-09-19
					QC 7 - 40	
					QC 7 - 24	
					QC 7 - 43	
170 QC 5	1 pcs	7/5/19	0.00	0.00	QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	

				QC 5 - 24	
				QC 5 - 3	
				QC 5 - 43	
				QC 5 - 49	
				QC 5 - 51	
				QC 5 - 58	
				QC 5 - 68	DAS SEP 19 2019 68
				QC 5 - 9	9-89
				QC 5 - 50	
				QC 5 - 30	
				QC 5 - 40	
180 Outsource - 2 - NDT per QSI038	1 pcs	7/5/19		SKY002-VC	PL 09/20/2019
190 Packaging 2-1 - Receive - B4B	1 pcs	7/5/19	0.00 0.00	Packaging 2 - 1 - B4B	
				Packaging 2 - 2 - B4B	
				Packaging 2 - 3 - B4B	
				Packaging 2 - 5 - B4B	
				Packaging 2 - 4 - B4B	
				Packaging 2 - 6 - B4B	
				Packaging 2 - 7 - B4B	
				Packaging 2 - 8 - B4B	
				Packaging 2 - 9 - B4B	
				Packaging 2 - 10 - B4B	
				Packaging 2 - 11 - B4B	
				Packaging 2 - 12 - B4B	
				Packaging 2 - 13 - B4B	DP SEP 20 2019
				Packaging 2 - 14 - B4B	
				Packaging 2 - 15 - B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	
				Packaging 2 - 27 - B4B	
				Packaging 2 - 28 - B4B	
				Packaging 2 - 29 - B4B	
				Packaging 2 - 30 - B4B	
				Packaging 2 - 31 - B4B	
				Packaging 2 - 32 - B4B	
				Packaging 2 - 33 - B4B	
				Packaging 2 - 34 - B4B	
				Packaging 2 - 35 - B4B	
				Packaging 2 - 36 - B4B	
200 QC 5	1 pcs	7/5/19	0.00 0.00	QC 5 - 10	
				QC 5 - 12	
				QC 5 - 17	
				QC 5 - 18	
				QC 5 - 19	
				QC 5 - 22	
				QC 5 - 24	
				QC 5 - 3	
				QC 5 - 43	
				QC 5 - 49	

					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	DAS
					QC 5 - 40	SEP 23 2019 40
210 Spray Paint - 2 - B4B	1 pcs	7/5/19	0.00 0.25		Spray Paint - 1 - B4B	A2 19-9-21
					Spray Paint - 2 - B4B	
					Spray Paint - 3 - B4B	
					Spray Paint - 4 - B4B	
220 QC 14	1 pcs	7/5/19	0.00 0.00		QC 14 - 15	
					QC 14 - 2	
					QC 14 - 34	
					QC 14 - 41	
					QC 14 - 51	
					QC 14 - 58	
					QC 14 - 59	
					QC 14 - 9	
					QC 14 - 68	DAS
					QC 14 - 40	SEP 25 2019 68
					QC 14 - 19	9-89
					QC 14 - 43	
					QC 14 - 24	
230 Crosstubes - 4 - B4B	1 pcs	7/5/19	0.00 1.33		Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	A2 19-9-22
240 QC 5	1 pcs	7/5/19	0.00 0.00		QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	DAS
					QC 5 - 40	SEP 25 2019 40
250 Packaging 1-1 - Pick Kit - B4B	1 pcs	7/5/19	0.00 0.00		Packaging 1 - 1 - B4B	9-89
					Packaging 1 - 2 - B4B	
					Packaging 1 - 3 - B4B	
					Packaging 1 - 4 - B4B	
					Packaging 1 - 5 - B4B	
					Packaging 1 - 6 - B4B	
					Packaging 1 - 7 - B4B	
					Packaging 1 - 8 - B4B	
					Packaging 1 - 9 - B4B	
					Packaging 1 - 10 - B4B	
					Packaging 1 - 11 - B4B	
					Packaging 1 - 12 - B4B	
					Packaging 1 - 13 - B4B	
					Packaging 1 - 14 - B4B	

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 Rosales, Oscar
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				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	DAS
275 DC - 1 - B4B	1	7/5/19	0.00 0.00	DC - 1 - B4B	21
	pcs			DC - 2 - B4B	DAS
280 QC 21 - FG	1	7/5/19	0.00 0.00	QC 21 - FG - 21	21 SEP 2 6 2019
	pcs			QC 21 - FG - 70	3-39
				QC 21 - SA - 53	SEP 2 6 2019

Part Op 110 - pick kit

Descriptions: 120 - CNC Alpha 160 Bender - Bend tube as per Dwg D206-667-143 using CNC bender program

130 - QC15- Crosstube Dimensional Check

140 - Crosstubes ***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** , VERIFIED

BY: ***** 1- Drill holes & ream using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill all (3) top holes. Holes facing inboard. ***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** , VERIFIED

BY: ***** 2- Drill Fwd rivet holes using drill Jig DT8787 fwd as per Dwg D206-667-143. Note: Fwd side has 3x top holes. Facing inboard. 3- C'sink holes as per Dwg D206-667-143. Allow rivet to sit below surface to compensate for paint. 4- Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins. Drill ONLY 2 top holes ONLY plug most bottom holes to prevent accidental drilling. Drill holes and ream using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill only the top (2) holes. 5- Drill Aft rivet holes using drill Jig DT8787 aft as per Dwg D206-667-143. 6- C'sink holes as per Dwg D206-667-147. Allow rivet to sit below surface to compensate for paint. 7- Scribe part # and batch # using vibrating stylus as per Dwg D206-667-143 Inside of Cuff (Do not engrave on outside of tube) 8- *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Deburr & inspect for surface damage. Repair damage within limits as per Dwg D206-667-143

150 - Crosstubes Chemical Conversion ***IMMEDIATELY AFTER GRINDING***

160 - QC7-Inspect Chemical Conversion Coat

170 - QC5- Inspect part completeness to step on W/O

180 - Outsource process - NDT per QSI038 4.1 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

190 - Receive & Inspect for Damage & Mat'l Certs - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

200 - QC5- Inspect part completeness to step on W/O - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

210 - *Spray Paint / NDT Room - ** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** ** MASK AREA UNDER CLAMP PRIOR TO PAINTING AS PER DWG DEO*** 1-Prime inside and outside crosstube as per QSI 005 4.2

2- Paint outside crosstube with White Imron as per QSI 005 4.2 PRIME: 5189223 Start-Time: _____ Finish Time: _____ PAINT: 5204428

220 - QC14- Inspect Spray Paint - Wrap in plastic bag to protect from scratches

230 - Crosstubes - 2-Install supports with Proseal 890 per D206-667-143 (DEO) and QSI 015 3-Install supports clamps Using Dt9565 as per Dwg D206-667-143 (DEO), Torque to 80-100 IN-LBS. 4-Install nut plates as per Dwg D206-667-143. Touch-up rivet heads with Imron paint. 5176610 -rp 10/19

240 - QC5- Inspect part completeness to step on W/O - ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 72HOURS AS PER DWG.*** **VERIFY RESISTANCE PER NOTE 18 AND DWG DEO***

250 - Pick Kit

260 - QC4- 100% Inspect kits for completeness - ***VERIFY BY _____ BATCH # TO MATCH W/O

270 - Identify and pack for shipping as per PPP D206-667-103 Location : FG103

275 - Document Control - Photocopy bluefile and create labels as per PPP D206-667-103 CHG006

280 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D206-667-103TRN	Crosstube Turning Detail	1 pcs (1 ea)	110-Packaging 1 - Pick Kit	S191690
D2873-043	Nut Plate Assembly	2 pcs (2 ea)	230-Crosstubes - 4 - B4B	
D2873-045	Nut Plate Assembly	2 pcs (2 ea)	230-Crosstubes - 4 - B4B	
D2891-1	Support 2.25	2 pcs (2 ea)	230-Crosstubes - 4 - B4B	
D3595-063-395	Rubber Cushion 0.63" Wide X 3.95" Long	4 pcs (4 ea)	230-Crosstubes - 4 - B4B	
MS20601-AD4W8	Rivet	14 Ea (14 ea)	230-Crosstubes - 4 - B4B	
MS21920-20	Clamp	4 Ea (4 ea)	230-Crosstubes - 4 - B4B	
AN742D36	Plain Clamp Loop	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
MS21042-3	Nut use MS21042L3 per QSI 017	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
MS27039-1-08	Screw	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
MS9165-05	Bracket	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
NAS1149C0332R	Washer	4 Ea (4 ea)	230-Crosstubes - 4 - B4B	
AN5-30A	Bolt	4 Ea (4 ea)	250-Packaging 1-1 - Pick Kit - B4B	S166980 ✓
AN5-32A	Bolt	4 Ea (4 ea)	250-Packaging 1-1 - Pick Kit - B4B	S119838 ✓
AN5-7A	Bolt	10 Ea (10 ea)	250-Packaging 1-1 - Pick Kit - B4B	S4123355 ✓
AN970-4	Washer	12 Ea (12 ea)	250-Packaging 1-1 - Pick Kit - B4B	S202671 ✓
MS21042L5	Nut	4 Ea (4 ea)	250-Packaging 1-1 - Pick Kit - B4B	S208332 ✓
NAS1149D0563J	Washer	18 Ea (18 ea)	250-Packaging 1-1 - Pick Kit - B4B	S174288 ✓

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9-25-2019

Rosales, Oscar

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Packaging 1 - Pick Kit	D206-667-103TRN	1	0	0
230-Crosstubes - 4 - B4B	AN742D36	2	45	0
	D2873-043 S186472	②	51	0
	D2873-045 S186342	②	48	0
	D2891-1 S190655	②	16	0
	D3595-063-395 S180569	④	63	0
	MS20601-AD4W8 S155662	①4	198	0
	MS21042-3	2	554	0
	MS21920-20 S103843	④	105	0
	MS27039-1-08	2	467	0
	MS9165-05	2	39	0
	NAS1149C0332R	4	2,916	0
250-Packaging 1-1 - Pick Kit - B4B	AN5-30A	4	52	0
	AN5-32A	4	329	0
	AN5-7A	10	3,092	0
	AN970-4	12	87	0
	MS21042L5	4	625	0
	NAS1149D0563J	18	2,648	0

D206-667-017 - S189483①

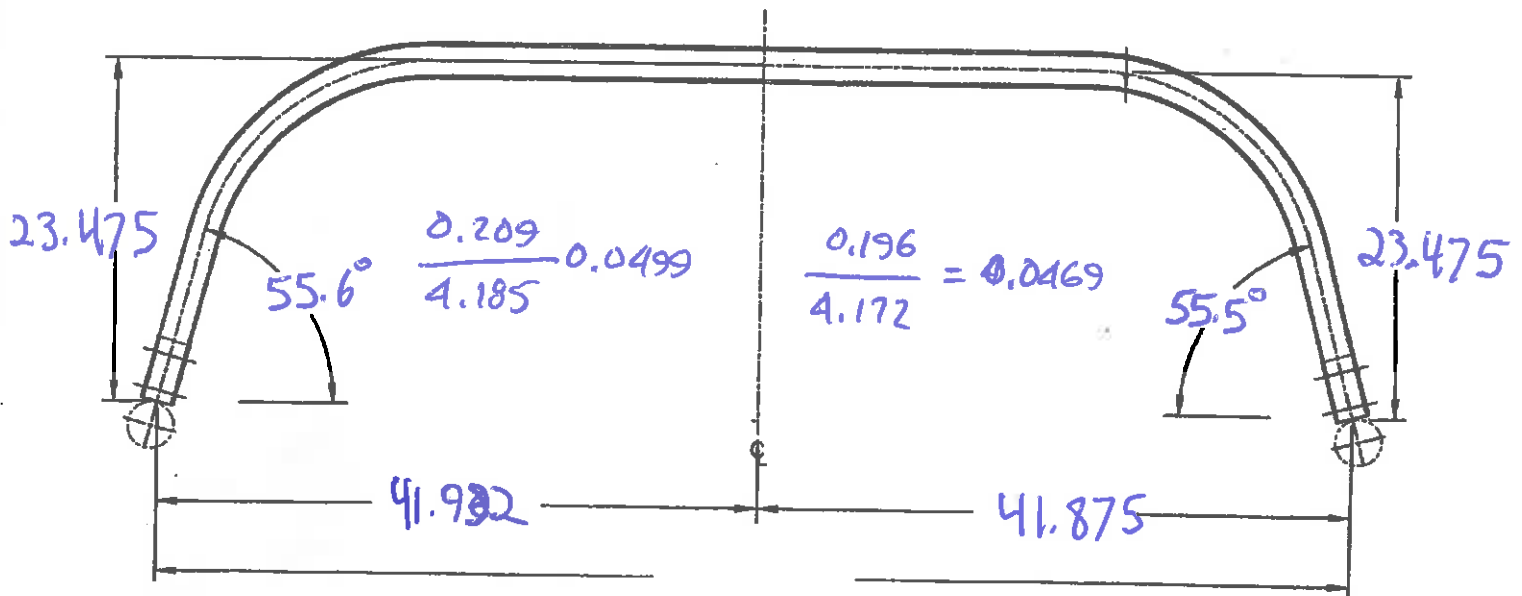
Part Specifications

Specifications could not be found.

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DART AEROSPACE LTD		Work Order:	196/06
Description: Crosstube High Fwd (206L)		Part Number:	D206-667-103
Inspection Dwg: D206-667-143	Rev: C	Page 1 of 1	

Required Dimension	Min	Max
Height	23.39	23.65
1/2 Span	41.79	42.05
Angle	54	56
Total Span	83.58	84.10
Bending Passes	10	--
Crushing	--	6%



1.988
2.197

	Side A	Side B
Bending Passes		
Crushing	5%	4.7%
Comments		

1.988
2.184

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	09.06.26	Dimensions updated per Dwg Rev C	KJ	
C	09.10.22	Minimum height dimension revised	KJ	
D	12.04.16	Added bending, crushing dimensions	KJ	

Item	Qty	Part Number	Description
1	X	D206-887-143	CROSSTUBE ASSEMBLY (208L HIGH FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2881-1	SUPPORT
6	4	D3895-083-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS8302B-4-8)
9	AR	PROSEAL 880 B-2	SEALANT, AMS-S-8802 CLASS B-2
10	2	AN742D36	CLAMP
11	2	MS9185-05	ANGLE BRACKET
12	2	MS21042L3	NUT (OR MS21042-3)
13	2	MS27039-1-08	SCREW
14	4	NAS1148C0332R	WASHER (OR AN880C10L)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6002-115
FINISHED LENGTH = 104.9850.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-887-143" AND BATCH NUMBER ON INSIDE OF CLIFF USING VIBRATING STYLUS.
- 7) WEIGHT: 15.5 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY.
- 10) TRANSITION SHOULD BE SMOOTH.
- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 8% BASED ON O.D.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 13) TO INSTALL D2881-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 880 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 14) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3895-083-395 RUBBER CUSHIONS TO SECURE THE D2881-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 15) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 16) TORQUE CLAMPS 80 TO 100 IN.LB. ENSURE AT LEAST 4.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TIGHTENING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 880 SEALANT HAS CURED FOR 72 HOURS.
- 17) MASK AREA UNDER CLAMP PRIOR TO PAINTING.
- 18) SEAL EDGES WHERE AN742D36 CLAMP MEETS WITH THE CROSSTUBE USING SIKAFLEX-241/-281 OR MIL-S-8802 CLASS B2 OR PROSEAL 880 SEALANT.
- 19) PERFORM RESISTANCE CHECK TO ENSURE MAX RESISTANCE IS 10 MEGOHMS.

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WITHOUT NOTICE
WORK ORDER

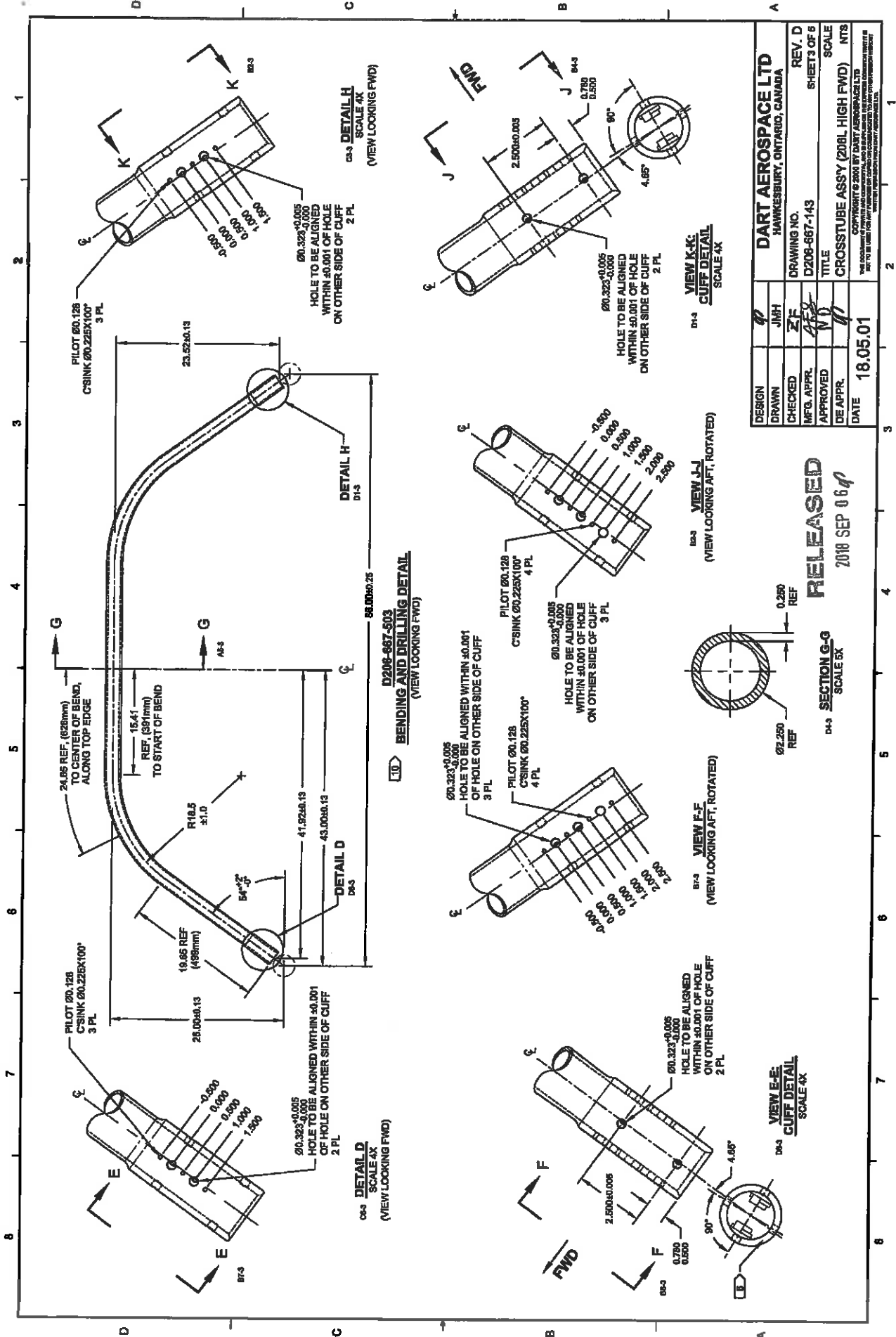
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D	REVISE SHEET 2 ASSEMBLY DETAIL HOLE PATTERN PER CARB-221. UPDATE PARTS LIST AND GENERAL NOTES 12 & 15 TO INCORPORATE DES C-1. ADD ITEMS 10-14 TO PARTS LIST. ADD GENERAL NOTES 18-18 AND ADD SHEET 5 TO INCORPORATE DES C-2.	JMH	18.05.01
C	REVISE GENERAL NOTESPART LIST (ZN D7-1): REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3895-083-395 WAS D2858-400-884 (ZN D6-2 & A6-2); REMOVED REF. & ADD TOLERANCE (ZN D3-3, C4-3, C5-9); RELOCATED FLAG # (ZN A6-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATIBILITY WITH BHTMA SKIDTUBES	PH	03.07.25
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	JMH		
DRAWN	JMH		
CHECKED	JMH		
MFG. APPR.	AFK		
APPROVED	N/D		
DE APPR.	q1		
DATE	18.05.01		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. D206-887-143			
REV. D			
SHEET 1 OF 5			
TITLE CROSSTUBE ASSY (208L HIGH FWD) NTS			
SCALE			
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2018 SEP 06
ECN 14-77



DESIGN	00	JMH
DRAWN		
CHECKED	ZF	
MFG. APPR.	AFG	
APPROVED	ND	
DE APPR.	00	
DATE	18.05.01	

RELEASED
2018 SEP 06

SECTION G-G
SCALE 5X

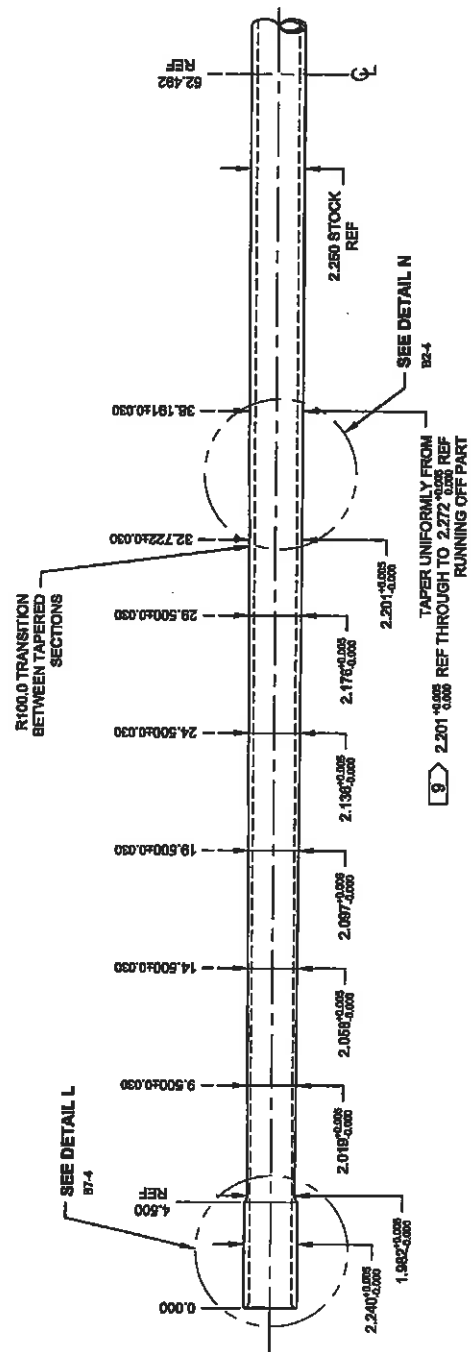
DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D208-867-143
REV. D
SHEET 3 OF 8

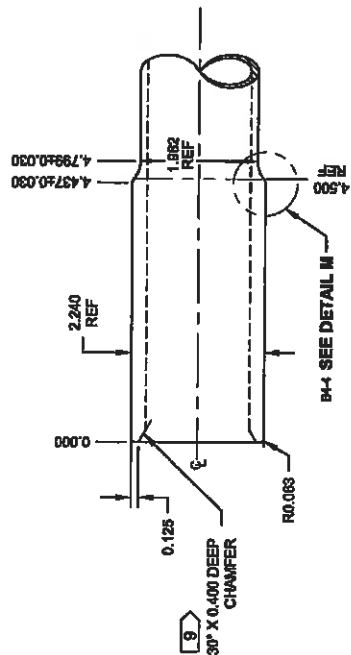
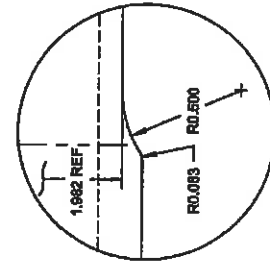
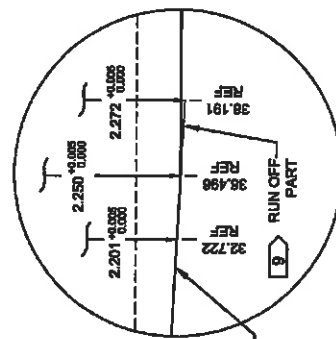
TITLE CROSS-TUBE ASSY (208L HIGH FWD)
SCALE NTS

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1 2 3 4 5 6 7 8



TURNING DETAIL



DETAIL N:
TAPER RUN-OFF
NOT TO SCALE

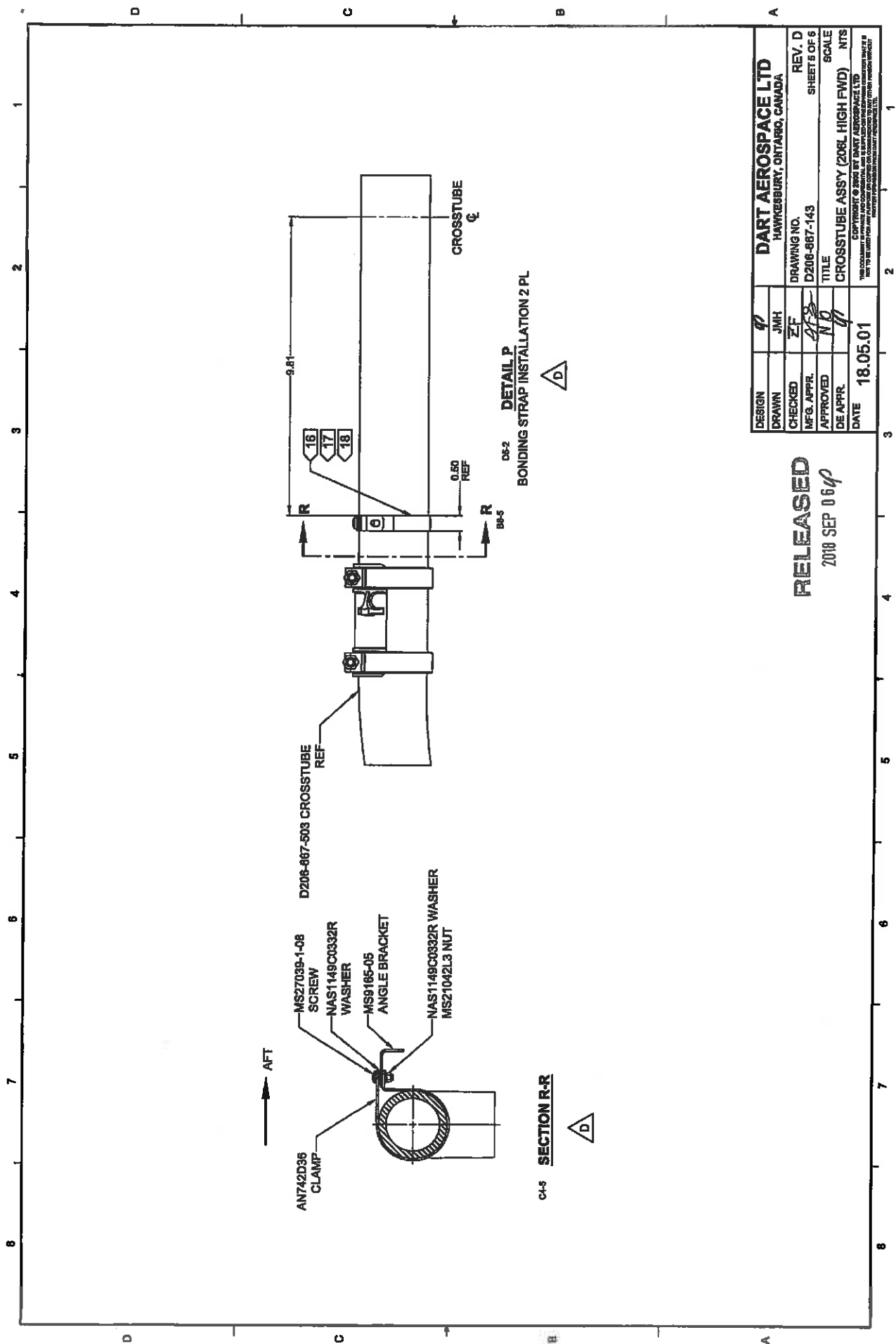
DETAIL M:
CUFF TRANSITION
NOT TO SCALE

DETAIL L:
CROSS-TUBE CUFF
NOT TO SCALE

DESIGN	00	DART AEROSPACE LTD
DRAWN	JMH	HAWKESBURY, ONTARIO, CANADA
CHECKED	ZTF	DRAWING NO. REV. D
MFG. APPR.	DEF	D208-887-143 SHEET 4 OF 5
APPROVED	NO	TITLE SCALE
DE APPR.	00	CROSS-TUBE ASSY (208L HIGH FWD) NTS
DATE	18.05.01	COMP. BY DART AEROSPACE LTD

RELEASED
2018 SEP 06

1 2 3 4 5 6 7 8



DESIGN	40	DART AEROSPACE LTD
DRAWN	JMH	HAWKESBURY, ONTARIO, CANADA
CHECKED	ZF	DRAWING NO.
MFG. APPR.	428	REV. D
APPROVED	NB	SHEET 6 OF 6
DE APPR.	40	SCALE
DATE	18.05.01	CROSSTUBE ASSY (208L HIGH FWD) NTS

RELEASED
2018 SEP 06

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Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____		DISPOSITION				DEPARTMENT/PROCESS							
Part No. _____		Rework ☐ Scrap ☐ Use-as-is ☐				Skid-tube ☐ Machining ☐ Large Fab ☐		Cross tube ☐ Small Fab ☐ Finishing ☐		Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐		Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐	
Date :	Sequence #:	QTY Affected :		MRB (QSI042)									
Description Work Order Deviation				Disposition									
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐				FAULT CATEGORY									
				Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐		Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐		Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread ☐			
				Completed By									
				Lead hand / Supervisor									
				QC / QA Coordinator									



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB044535



Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

Attention: Jenne, Heather

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB044535

PO Date: 9/19/19

Due Date: 9/20/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	196105	D206-667-103	Fwd Crosstube - High 206L / L1 / L3 / L4 : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***	Firmed	-	9/20/19	1 pcs	0 pcs	1 pcs	\$152.50/pcs	\$152.50
2	196106	D206-667-103	Fwd Crosstube - High 206L / L1 / L3 / L4 : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***	Firmed	-	9/20/19	1 pcs	0 pcs	1 pcs	\$152.50/pcs	\$152.50

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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB044535



Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	200061	D206-667-207BL	Aft Crosstube - Mid Height 206L / L1 / L3 / L4, Blue : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed XI	-	9/20/19	1 pcs	0 pcs	1 pcs	\$152.50/pcs	\$152.50
							SEP 20 2019				OP
4	200062	D206-667-207BL	Aft Crosstube - Mid Height 206L / L1 / L3 / L4, Blue : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed XI	-	9/20/19	1 pcs	0 pcs	1 pcs	\$152.50/pcs	\$152.50
							SEP 20 2019				OP
5	199238	D212-664-101	Fwd Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed XI	-	9/20/19	1 pcs	0 pcs	1 pcs	\$152.50/pcs	\$152.50
							SEP 20 2019				OP



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB044535



Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
6	99239	D212-664-101	Fwd Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA- 316/2015 15/06/17 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	9/20/19	1 pcs	0 pcs	1 pcs	\$152.50/pcs	\$152.50
Grand Total:											\$915.00

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 9/20/19 2:05 PM dart.lussier.patrick

**skyservice****Work Order Traveler**
Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO41837	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: POHB044535
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT ON:

2 FWD CROSSTUBES , P/N: D212-664-101 , J/S: 199238 , 199239

2 AFT CROSSTUBES , P/N: D206-667-207BL , J/S: 200061 , 200062

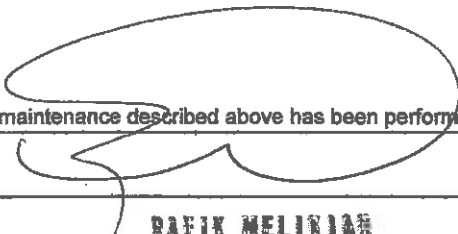
2 FWD CROSSTUBES , P/N: D206-667-103 , J/S: 196105 , 196106

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Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16						SEP 20 2019	 
NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

RECEIVED
SEP 20 2019
DART AEROSPACE LTD.

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp 	Date: SEP 20 2019
Name: RAFIK MELIKIAN		

5.0 PARTS LIST

5.1 HIGH GEAR CROSSTUBES

Item	Qty -101	Qty -201	Qty -103	Qty -203	Qty -105	Qty -205	Part Number	Description
	X						D206-667-101	CROSSTUBE INSTALLATION, 206A/B HIGH FWD
		X					D206-667-201	CROSSTUBE INSTALLATION, 206A/B HIGH AFT
			X				D206-667-103	CROSSTUBE INSTALLATION, 206L/L-1/L-3/L-4 HIGH FWD
				X			D206-667-203	CROSSTUBE INSTALLATION, 206L/L-1/L-3/L-4 HIGH AFT
					X		D407-667-105	CROSSTUBE INSTALLATION, 407 HIGH FWD
						X	D407-667-205	CROSSTUBE INSTALLATION, 407 HIGH AFT
1	1						D206-667-141	CROSSTUBE ASSEMBLY, 206A/B HIGH FWD
2		1					D206-667-241	CROSSTUBE ASSEMBLY, 206A/B HIGH AFT
3			1				D206-667-143	CROSSTUBE ASSEMBLY, 206L/L-1/L-3/L-4 HIGH FWD
4				1			D206-667-243	CROSSTUBE ASSEMBLY, 206L/L-1/L-3/L-4 HIGH AFT
5					1		D407-667-145	CROSSTUBE ASSEMBLY, 407 HIGH FWD
6						1	D407-667-245	CROSSTUBE ASSEMBLY, 407 HIGH AFT
10	*2	*2	*2		*2		D2891-1	SUPPORT
11				*2			D2892-1	SUPPORT
12						*1	D2894-1	SUPPORT
13	*4	*4	*4		*4		D3595-063-395	RUBBER CUSHION
14				*4			D3595-063-450	RUBBER CUSHION
15						*2	D3595-075-430	RUBBER CUSHION
16	*4	*4	*4		*4		MS21920-20	CLAMP
17				*4		*4	MS21920-22	CLAMP
18						*2	MS21920-25	CLAMP (OR MS21920-24)
19	4	4			4		AN5-32A	BOLT
20				4		4	AN5-34A	BOLT
21	4	4	4	4	4	4	MS21042L5	NUT (OR MS21042-5)
22	8	8	8	8	8	8	MS1149C0563J	WASHER (OR AN960JD516)
23						*2	D3190-1	CHAFING SHIELD
40	*2		*2	*2	*2	*2	D2873-043	NUT PLATE
41	*2		*2	*2	*2	*2	D2873-045	NUT PLATE
42		2					D2872-043	NUT PLATE
43		2					D2872-045	NUT PLATE
44	10		10				AN5-7A	BOLT
45		10		10	10	10	AN5-10A	BOLT
46	4	10	4		4		AN5-30A	BOLT
47				4		4	AN5-32A	BOLT
48			12				AN970-4	WASHER (OPTIONAL)
49		6					MS21042L5	NUT (OR MS21042-5)
50	10	12	10	10	10	10	MS1149C0563J	WASHER (OR AN960JD516)
60		1					D3039-3	CENTER DRILL (TOOLING, NOT INSTALLED)

*REFERENCE ONLY. PARTS ARE INCLUDED IN D206-667-141/-143/-241/-243 & D407-667-145/-245
ASSEMBLIES ABOVE

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Revision: D
Date: 11.05.01